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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/021,088	12/19/2001	Mitsugu Kamizuru	35.C16071	8751

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EXAMINER

TAWFIK, SAMEH

ART UNIT	PAPER NUMBER
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3721

DATE MAILED: 09/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/021,088

Applicant(s)

KAMIZURU ET AL.

Examiner

Sameh H. Tawfik

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 7-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892).
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948).
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 05132004.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152).
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

The amended drawings were received on 08/10/2004. These drawings are accepted.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-4 and 7-20 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the small –diameter portion" in 9. There is insufficient antecedent basis for this limitation in the claim.

Claim 11 recites the limitation "the small-diameter portion" in line 8. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Click (3,576,051).

Click discloses a sheet folding apparatus for folding a sheet (Fig. 1) wherein at least a pair of folding rollers (Figs. 2 and 4; via rollers 21 and 22 could be considered as folding rollers);

note that after the sheet been blown rollers 21 and 22 helps in finishing the fold by flattening the sheet; wherein at least one of the pair of folding rollers has a single larger diameter portion (Fig. 4, via the center part of roller 21); provided within a convey range in a sheet width direction of a minimum size sheet foldable in the sheet folding apparatus (Fig. 1; abstract; lines 1-4, via Click's rollers improving the folding process) and small diameter portions at both sides of the large diameter portion (Figs. 2 and 4, via portion 28), and wherein a gap formed at "the small-diameter portion" between the pair of folding rollers is smaller than a thickness of the sheet as folded, see for example (Fig. 4).

Regarding claim 2: wherein the large diameter portion is provided at a sheet convey center portion of the roller (Fig. 4; via the center portion of roller 21).

Regarding claim 3: wherein a width of the single large diameter portion in the axis direction is substantially $\frac{1}{2}$ of a minimum width of a sheet size folded in the sheet folding apparatus (Fig. 4).

Regarding claim 4: wherein another single large diameter portion of the roller is provided outside a width of a maximum size sheet foldable in the folding apparatus (Fig. 4; via the large diameter by the edges of roller 21).

Regarding claim 9: wherein the single large diameter portion has a taper section (Figs. 2 and 4).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11, 12-15, 18, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Click (3,576,051).

Click does not disclose an image forming apparatus for forming an image on the folded sheet. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Click's folding apparatus by having an image forming apparatus in order to form an image on the folded sheet, as a matter of engineering design choice, since the examiner takes an official notice that the mentioned image forming apparatus on folding machine is old, well known, and available in the art, such as the newspaper machines, in order to image and fold the sheet at the same apparatus. Alternatively, the examiner takes an official notice that image on folded sheet is old, well known and available on the art, therefore, would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Click's folding apparatus by having an image forming apparatus in order to form an image on the folded sheet.

Regarding claims 12 and 20: Click does not disclose that the pair of folding rollers comprise elastic members. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Click's folding apparatus by having the pair of folding rollers comprise elastic members, as a matter of engineering design choice in order to make the rollers pressing on the folded material softly and avoiding any cracks or crumbling of the folded material, since the examiner takes an official notice that the mentioned elastic members in folding rollers is old, well known, and available in the art, in order to avoid high stress on the sheet while folding or conveying.

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Regarding claim 13: Click discloses wherein the large diameter portion is provided at a sheet convey center portion of the roller (Fig. 4; via the center portion of roller 21).

Regarding claim 14: Click discloses wherein a width of the single large diameter portion in the axis direction is substantially $\frac{1}{2}$ of a minimum width of a sheet size folded in the sheet folding apparatus (Fig. 4).

Regarding claim 15: Click discloses wherein another single large diameter portion of the roller is provided outside a width of a maximum size sheet foldable in the folding apparatus (Fig. 4; via the large diameter by the edges of roller 21).

Regarding claims 18 and 19: Click discloses wherein the single large diameter portion has a taper section (Figs. 2 and 4).

Claims 7, 8, 10, 16, 17, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Click (3,576,051) in view of Branecky et al. (5,180,151).

Click does not disclose that the predetermined gap formed between the pair of folding rollers is set smaller than a thickness of three sheets conveyed. However, Branecky discloses a similar sheet folding apparatus comprising that the predetermined gap formed between the pair of folding rollers is set smaller than a thickness of three sheets conveyed (Figs. 2 and 3; column 1, lines 19-26).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Click's sheet folding apparatus by having the predetermined gap formed between the pair of folding rollers is set smaller than a thickness of three layers or sheets conveyed, as suggested by Branecky, in order to be able of folding more

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than one layer of sheet and increase the thickness of the sheet and strengthen the sheet by having more layers.

Regarding claim 10: Click discloses that the single large diameter portion has a taper section (Figs. 2 and 4).

Response to Arguments

Applicant's arguments filed 08/10/2004 have been fully considered but they are not persuasive.

Applicants argue on page 8 of the arguments that Click's reference relates to an apparatus for flattening a blown tubular film 34 by passing the film between an upper roller 21 and a lower roller 22. The examiner agrees with the applicant that Click refer to rollers 21 and 22 as flattening rollers, but the examiner also believes that these rollers also assist on the folding process of the web (abstract, lines 1-3; via "...so as not to produce brittle weakened folds."). Alternatively, the claims of the present application are apparatus claims and the examiner believes that Click's rollers are very similar to the claimed folding rollers and capable of folding the sheet as claimed on the present invention.

Applicants further argue that Click fails to teach or suggest a gap formed at the small diameter portion between the pair of folding rollers that is smaller than a thickness of a sheet as folded. The examiner believes that Click discloses gap formed at the small diameter portion (Figs. 2 and 4; via 28). The examiner believes that applicants further argue about the gap is formed to be smaller than a thickness of a sheet as folded is not clearly claimed on the claim because of the 112 issues as set forth. Alternatively, the examiner believes that Click discloses

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the dimensions of the gap is varied depending primarily on the thickness of the film being produced (column 4, lines 68-70).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sameh H. Tawfik whose telephone number is (703) 308-2809. The examiner can normally be reached on Tuesday - Friday from 8:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rinaldi Rada can be reached on (703) 308-2187. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ST.



EUGENE KIM
PRIMARY EXAMINER